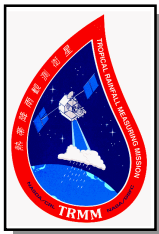


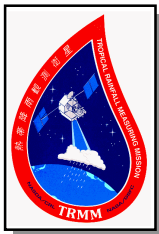
TRMM Monthly Status Briefing

September 8, 1999



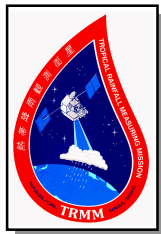
FOT Overview

- Key Issues or Upcoming Events to be discussed
 - Ground System
 - » Event Reports including NCC Scheduling, WSC event problems, and inaccurate FDF vectors
 - Subsystem Overview
 - » Solar Array jitter status
 - Instrument Overview



FOT Overview

- Operations Status - Engineering Staff
 - Flight Ops Summary - Lou Kurzmilller
 - Training & Certification Status - Ave Kludze
 - Thermal & Electrical - Ave Kludze
 - RCS - Andy Calloway
 - Deployables & ACS - Joe Kowalski
 - FDS, C&DH, RF - Ed Weidner
 - Power - Candace Shoemaker
 - LIS & CERES - Candace Shoemaker
 - VIRS - Ave Kludze
 - TMI & PR - Joe Kowalski
 - Ground System & Y2K upgrade - Ed Weidner



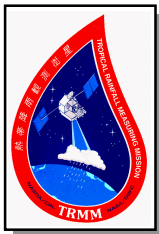
Flight Operations Summary

- Supported 525 SN events in August; 3 generic late acqs
- Staffing - All new personnel now on shift schedule with their shift leads
- 6 Event Reports generated in August - Ground System will discuss
 - Unrecoverable data loss resulted from ER #117
 - » Reference weekly ops report for specific recorder timespans
 - Awaiting WSC playback status to determine if any data lost resulting from ER #120



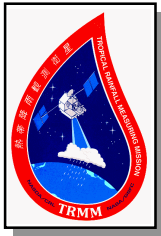
Training & Certification Status

- New hires working towards certification completion
 - One has completed all 3 real-time tests
 - Two have completed 2 out of 3 real-time tests
 - One has completed 1 of 3 real-time tests
- Playback library index now being populated for Advanced Training Phase I



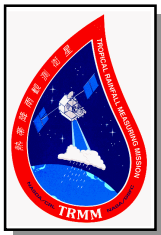
Thermal Subsystem

- Thermal subsystem performed nominally
- High thermal conditions experienced on solar array drive remains a serious concern - monitoring continues
- No new Anomaly or Event Reports



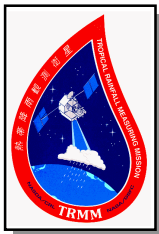
Electrical Subsystem

- Electrical subsystem performed nominally
- No new Anomaly or Event Reports



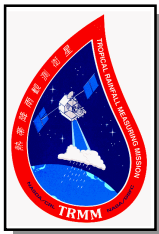
RCS Subsystem

- RCS performed nominally through Delta-V maneuvers #113 - #119
- Fuel remaining: 697.2 kg of hydrazine
- Catbed temperatures are well above the 32° recommended firing level using the new 45 minute on-time for full beta angle range



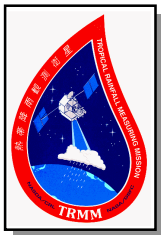
Deployables Subsystem

- -Y solar array drive temperature still approaching life test temperature of 37 °C frequently
- Failed array checklist is finalized and on console
 - Contingency training continues



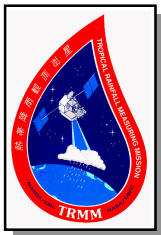
ACS Subsystem

- Delta-V #119 was only the 3rd maneuver out of 42 in which FDCs 112/113 would have tripped with the original limit of 0.51° in place
- Open Issues
 - Yaw update change
 - » Will receive update from FDF
 - Software bug found in ACS Flight Software (CCR #053)
 - » Incorrectly defined algorithm array
 - » FSW confirmed that it will not affect attitude so will not be given high priority
 - Solar Array oscillations
 - » Next high beta angle (-55°) on 99-328
 - » Code patch review next week



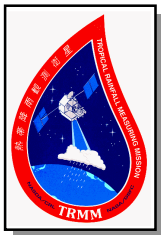
ACS Subsystem

- Open Issues (continued)
 - Failure of -Y solar array
 - » ACE RAM patch to reduce torque gain in Safehold
 - Meeting with Hammers Company confirmed that an ACE command exists to change torque gain value; patch not needed
 - FSW currently testing the command on STTF
 - » Looking into the possibility of uplinking new ACS tables 54 & 66 now, with adjusted values
 - Torque may not build up in an inertially fixed mode
 - » Looking into the possibility of pitching spacecraft to warm PR in Safehold or Sun Acq



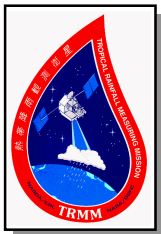
ACS Subsystem

- Open Issues (continued)
 - Uplinked ACS System Table #85 (Ephemeris Limits)
 - » Position continuity check 400 to 850 km; velocity continuity check 0.030 to 0.065 km/s
 - » Two successful TDRS EPV updates since table change
 - » Awaiting 1-2 more successful updates before committing the table to EEPROM
 - » CCR #035 closed and AR #60 to be closed out



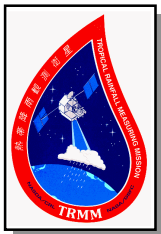
FDS Subsystem

- UTCF Adjusted on 99-231
 - Current value is 31535996.859820 sec.
- Invalid Stream ID due to VIRS on 99-215, 216, and 235
- Q-starts, MS Not Present, and Flywheels
- Open Issues
 - Elimination of launch TSMs



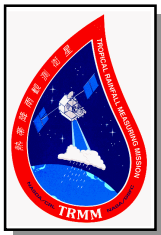
C&DH Subsystem

- FS Adjusted on 99-231
 - Current value is x'76F'
- EDACs



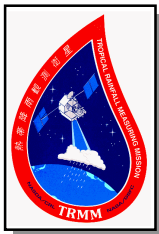
RF Subsystem

- Center frequencies still steady, with XP2 drifting towards uplink
- Four generic late acquisitions: 99-217, 235, 240, and 244
- Investigating RXTE transponder anomaly for TRMM issues



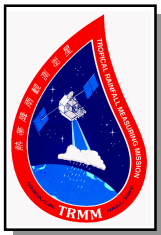
Power Subsystem

- Performed nominally
- Open issues
 - Procedure to reset PSIB timers almost complete
 - FSW patch to PSIB timer routines (AR #73 - CCR #050)
 - Code 563 evaluation of current battery charge operations
 - » Disable trickle charge at low beta angles
- Open Anomalies
 - #55 Battery 2 Cell 1 Hitting YH and RH limits
 - #73 PSIB A Orbit Status Timer Unchanged



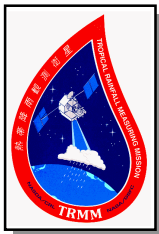
LIS Instrument

- LIS Automatic Heater Controller powered OFF Primary Heater and powered ON Secondary Heater on 99-237 at 22:12:30z (AR #76)
 - MSFC personnel were informed
 - Trending confirmed LIS Filter Heater temperatures were within the defined Controller setpoints at time of switch
 - Nominal Primary Heater configuration restored on 99-238 at 14:34:31z via MSFC command request
- Routine MSFC real-time command requests performed on 99-216 and 99-229



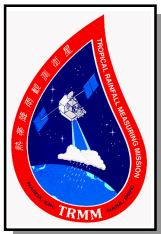
CERES Instrument

- Next turn on period is scheduled for end of September
 - On for a few hours to perform Solar and Internal Calibrations
- Open issues
 - Awaiting official closure of Anomaly Report #69 - CERES DAA High Voltage on +15 V converter
 - Awaiting new TSMs for CERES current monitoring (CCR #045)



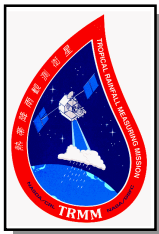
VIRS Instrument

- VIRS Reset #9 occurred on 99-242
 - Anomaly Report #56 (VIRS Reset) is still open
- Two Solar Calibrations were performed on 99-242
 - Performed in partial shadow to determine if any light or thermal leaks are present
- No new Anomaly or Event Reports
- Outstanding issues:
 - To investigate why planning aids are sometimes off



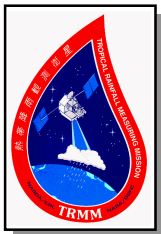
TMI Instrument

- Scientists reported seeing gain change frequently during the orbits of 9158-9160 on 99-182
 - FOT plotted all TMI telemetry and reported no unusual trends to Dr. Kummerow
- No other open issues



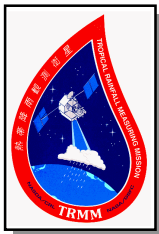
PR Instrument

- Provided FDF with PR frequency
 - FOT asked FDF to determine if there is any possible interference with SRTM (Shuttle Radar Topography Mission) which will launch aboard STS-99 in October 1999
- No NASDA command requests for the month of August



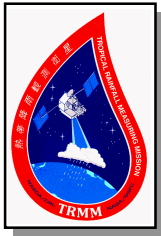
Ground System

- New Formats testing almost completed
 - New gatekeeper capability and 5-digit orbit
- Work-around for HSS of playback history file
- Problems saving edits to database
- NCC99 test incomplete due to Formats
- Event Reports
 - 114: NASCOM2000 software problems
 - » Required extra event
 - 115: State Manager Crash
 - 116: Front End #1 DC card hang
 - 117: Handover Failure at WSC/NCC database problems
 - » Notified 30 sec into event
 - » Overflowed the recorders and required numerous extra events



Ground System

- Event Reports (continued)
 - 118: Event dropped between NCC and WSC
 - » Required extra event
 - 119: Event failed due to WSC hardware failure
 - » Notified 30 sec into event
 - » Missed Delta-V coverage
 - 120: Bad vector at WSC
 - » Caused numerous late acqs (~10 min), two blind acqs, and data storage manipulation to prevent overflow (possible data loss)
 - 121: Router problem prevented an event
 - 122: Bad TDW vector at WSC
 - 123: Lost ODM and GCMR capability
 - 124: Bad EPV in maneuver command file



Ground System

- Y2K
 - Final testing to be completed this week